

What is claimed is:

1           1.       A system for correcting links to resources in a network, comprising:  
2           a link checking service unit associated with a first group of resources and configured  
3           for determining if a location of a resource among the first group of resources has changed;  
4           and  
5           a link correction service unit configured for sending a request to the link checking  
6           service to determine validity of a link, receiving a response indicating a status of the link,  
7           and modifying a document containing the link based on the received response.

1           2.       The system of claim 1, wherein said document is a World-Wide Web page,  
2           and said link is a hypertext link.

1           3.       The system of claim 1, wherein the link checking service unit sends a  
2           response message containing a current location of said resource if the location of said  
3           resource has changed, and the link correction service, in response to receiving the response  
4           message changing a document containing the link to indicate the current location of the  
5           resource.

1           4.       A method of correcting a link in a document, comprising:  
2           sending a request to a link checking service unit to check a status of a resource  
3           corresponding to the link;  
4           receiving a response to said request, the response containing an indication of a  
5           changed location of the resource; and  
6           changing the document based on the indication of the changed location of the  
7           resource.

1           5.       The method of claim 4, wherein the response further includes a link status  
2       code indicating a status of the resource.

1           6.       The method of claim 4, wherein the document is a World-Wide Web page  
2       and the link is a hypertext link.

1           7.       The method of claim 4, wherein the link includes a first uniform resource  
2       locator (URL) and the indication of the changed location of the resource includes a second  
3       URL, wherein the document is changing by changing the first URL in the link to the second  
4       URL.

1           8.       The method of claim 4, wherein the document is changed by automatically  
2       deleting the link in the document if the response does not include a replacement link and  
3       contains a link status code indicating that the link is invalid.

1           9.       The method of claim 4, wherein said sending a request, receiving a response,  
2       and changing the document are performed in a web server.

1           10.      An apparatus for correcting a link in a document, comprising:  
2               a document repository having stored therein one or more documents;  
3               a corrected document repository having stored therein one or more corrected  
4       documents;  
5               a link correction service unit connected to the document repository and the corrected  
6       document repository, and configured to parse a link from one of the documents in the  
7       document repository, generate a request for checking the validity of the link, correct the link

8 in response to receipt of a response message containing a corrected link, and store a  
9 corrected document having the corrected link in the corrected document repository.

1 11. The apparatus of claim 10, wherein the apparatus is part of a web server.

1 12. The apparatus of claim 10, wherein the link is a hypertext link containing a  
2 uniform resource locator (URL) and the document is a web page.

1 13. An apparatus for correcting a link in a document, comprising:  
2 means for sending a request to a link checking service unit to check a status of a  
3 resource corresponding to the link;  
4 means for receiving a response to said request, the response containing an indication  
5 of a changed location of the resource; and  
6 means for changing the document based on the indication of the changed location of  
7 the resource.

1 14. A computer readable medium of instructions suitable for execution by a  
2 computer, comprising:  
3 program instructions for sending a request to a link checking service to check a  
4 status of a resource corresponding to the link;  
5 program instructions for receiving a response to said request, the response containing  
6 an indication of a changed location of the resource; and  
7 program instructions for changing the document based on the indication of the  
8 changed location of the resource.

1           15.     A method for determining a status of a link in a document, comprising:  
2           receiving a request to determine the status of the link in the document, wherein the  
3           link includes a location indicator of a resource;  
4           detecting if the resource is present within a storage unit at a location indicated by the  
5           location indicator;  
6           determining if the resource is present at an alternate location if the resource is not  
7           detected in the location indicated by the location indicator; and  
8           returning an alternate location identifier indicating the alternate location of the  
9           resource if the resource is determined to be present at the alternate location.

1           16.     The method of claim 15, wherein the link is a hypertext link and the location  
2           indicator of the resource is a uniform resource locator (URL).

1           17.     The method of claim 16, wherein the resource is a web page.

1           18.     The method of claim 16, further comprising returning a link status code  
2           indicating whether the resource is present in the storage unit.

1           19.     The method of claim 18, wherein the link status code indicates whether the  
2           resource has been deleted from the storage unit.

1           20.     The method of claim 15, wherein said determining if the resource is present  
2           at an alternate location is performed by consulting a mapping table associating a first  
3           location indicator with a second location indicator, wherein the first location indicator  
4           indicates a prior location of the resource and the second location indicator indicates a  
5           present location of the resource.

1           21.     The method of claim 20, wherein the first and second location indicators  
2     are uniform resource locators (URLs).

1           22.     An apparatus for correcting a link in a document, comprising:  
2           a document repository having stored therein one or more documents;  
3           a mapping table unit having stored therein mapping table information associating  
4     a first prior resource-locator with a first present resource-locator, the first prior resource-  
5     locator indicating a prior location of a first resource within the document repository and  
6     the first present resource-locator indicating a present location of the first resource; and  
7           a link checking service unit connected to the document repository and the  
8     mapping table unit, and configured to locate an entry in the mapping table information  
9     based on a requested resource-locator contained in a request for information concerning  
10    location of the first resource, to identify the first present resource-locator stored in  
11    association with the first prior resource-locator, and to send a response message  
12    containing the first present resource-locator.

1           23.     The apparatus of claim 22, wherein the first prior and first present  
2     resource-locators are uniform resource locators (URLs).

1           24.     The apparatus of claim 22, wherein the mapping table further includes a  
2     second prior resource-locator indicating a location of a second resource and a status code  
3     indicating a status of the second prior resource-locator.

1           25.     The apparatus of claim 24, wherein the status code indicates that the  
2     second resource corresponding to the second prior resource-locator has been deleted.

26. The apparatus of claim 24, wherein the status code indicates that the second prior resource-locator indicates a present location of the second resource in the document repository.

27. The apparatus of claim 22, wherein the apparatus is part of a web server.

28. An apparatus for determining a status of a link in a document, comprising:  
means for storing one or more resources;  
means for receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource;  
means for detecting if the resource is present within said means for storing at a location indicated by the location indicator;  
means for determining if the resource is present at an alternate location if the resource is not detected in the location indicated by the location indicator; and  
means for returning an alternate location identifier indicating the alternate location of the resource if the resource is determined to be present at the alternate location.

29. A computer readable medium of instructions suitable for execution on a computer for determining a status of a link in a document, comprising:  
program instructions for receiving a request to determine the status of the link in the document, wherein the link includes a location indicator of a resource;  
program instructions for detecting if the resource is present within a storage unit at a location indicated by the location indicator;

7           program instructions for determining if the resource is present at an alternate location  
8   if the resource is not detected in the location indicated by the location indicator; and  
9           program instructions for returning an alternate location identifier indicating the  
10   alternate location of the resource if the resource is determined to be present at the alternate  
11   location.